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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
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In the Matter of

Establishment of Rules and Policies for the
Digital Audio Radio Satellite Service in the
2310-2360 MHz Frequency Band

)
)
) IB Docket No. 95-91 ✓
) Gen Docket No. 90-357
)

COMMENTS

The Wireless Communications Association International, Inc. ("WCA"), by its attorneys and in response to the Commission's January 21, 2000 *Public Notice*,^{1/} hereby submits its initial comments regarding the recent supplemental filings by Sirius Satellite Radio Inc. ("SSR") and XM Radio Inc. ("XM").^{2/} For the reasons set forth below, WCA submits that restrictions must be placed on the terrestrial Digital Audio Radio Service ("DARS") repeaters being proposed by SSR and XM in order to protect the Multipoint Distribution Service ("MDS") and Instructional Television Fixed Service ("ITFS") from destructive interference.

SSR and XM are the two domestic satellite Digital Audio Radio Service ("DARS") licensees, and are urging the Commission to allow the deployment of high-power terrestrial repeaters facilities throughout the United States with only minimal regulatory oversight. In support of those proposals, SSR purports to demonstrate that the terrestrial DARS rules it and XM support will adequately protect licensees in the MDS and ITFS bands from any possible interference. However, SSR has

^{1/} See "Satellite Policy Branch Information," *Public Notice* (rel. Jan. 21, 2000).

^{2/} See Supplemental Comments of Sirius Satellite Radio, IB Docket No. 95-91 (filed Jan. 18, 2000)[hereinafter cited as "SSR Supplemental Comments"]; Supplemental Comments of XM Radio Inc., IB Docket No. 95-91 (filed Dec. 17, 1999)[hereinafter cited as "XM Supplemental Comments"].

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failed to fully address one of the most serious threats of interference facing MDS and ITFS licensees – block downconverter overload. As a result, additional restrictions on terrestrial DARS repeaters beyond those proposed by SSR and XM are required in order to protect MDS and ITFS operations.

WCA is the trade association of the fixed wireless broadband industry. Its members include, among others, a wide variety of MDS and ITFS licensees, wireless cable system operators who utilize MDS and ITFS spectrum to provide video services to subscribing members of the public, and manufacturers of MDS and ITFS transmission and reception equipment. As such, it has a compelling interest in ensuring that the rules adopted in this proceeding adequately protect existing wireless cable operations that utilize the MDS and ITFS bands.

The DARS terrestrial repeaters contemplated by SSR and XM will operate in the 2320-2345 MHz band, directly between the 2305-2320 MHz and 2345-2360 MHz bands allocated to the Wireless Communications Service (“WCS”). In adopting the Part 27 rules that govern WCS, the Commission acknowledged that terrestrial WCS operations in the 2305-2320 MHz and 2345-2360 MHz bands could pose a substantial threat of interference to MDS/ITFS operations, and imposed a series of power limits, notice requirements, and equipment replacement rules to minimize that risk of interference.^{3/} WCA’s position, simply stated, is that similar rules (albeit adjusted to reflect that terrestrial DARS operates on narrower bandwidths than WCS) must be applied to terrestrial DARS repeater operations in the 2320-2345 MHz band.

^{3/} See *Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Service (“WCS”)*, 12 FCC Rcd 3977 (1997)[hereinafter cited as “*WCS Reconsideration Order*”].

SSR and XM, in their recent filings, propose that the Commission not restrict in any manner the power levels at which terrestrial repeaters can operate.^{4/} That proposal, however, cannot be squared with the Commission's determination in the *WCS Reconsideration Order* that fixed, land and radiolocation land WCS stations operating in the 2305-2360 MHz band must be limited to 2,000 watts peak EIRP in order to protect MDS and ITFS operations in the 2150-2162 MHz and 2500-2690 MHz bands.^{5/}

The WCS power limitation was a direct result of evidence that WCA presented to the Commission to the effect that wireless cable operators would likely suffer block downconverter overload interference to the subscriber equipment that had been widely deployed for use in MDS/ITFS systems.^{6/} The Commission agreed with WCA, holding that:

After careful consideration of this issue, we find that the public interest will be best served by setting limits on WCS operating power. We will therefore restrict WCS fixed, land and radiolocation land stations to 2,000 watts peak EIRP and WCS mobile and radiolocation stations to 20 watts EIRP. Setting maximum power levels on WCS operations will provide MDS/ITFS equipment manufacturers and service providers with the necessary certainty regarding the potential WCS environment to enable them to design and purchase more robust receiving installations, including better designed downconverters.^{7/}

There is no doubt that high-power terrestrial DARS operations pose the same threat. In the "Assessment of Interference Potential from Sirius Terrestrial Transmitters into MDS, MMDS and ITFS Systems in Frequency Bands Near 2 GHz" annexed as Exhibit 2 to SSR's most recent filing,

^{4/} See XM Supplemental Comments, at 4-5; SSR Supplemental Comments, at 3.

^{5/} See *WCS Reconsideration Order*, 12 FCC Rcd at 3983-84.

^{6/} See Petition for Expedited Reconsideration of the Wireless Cable Association International, Inc., GN Docket 96-228 (filed Mar. 10, 1997).

^{7/} *WCS Reconsideration Order*, 12 FCC Rcd at 3983-84.

SSR admits that terrestrial DARS operations “would be likely to cause overload of the MDS downconverters” at receive locations within 2048 meters of a terrestrial repeater.^{8/} And, while SSR suggests that “[t]he easiest way to overcome this problem is to use some sort of filtering across the Sirius Satellite Radio transmit band,”^{9/} the Commission has previously found that new filters “could not be economically installed in existing units” because of design constraints.^{10/}

In crafting the *WCS Reconsideration Order*, the Commission also recognized that limiting WCS operations to a maximum of 2,000 watts peak EIRP did not provide complete interference protection to existing MDS and ITFS installations. To the contrary, the Commission

agree[d] with WCA that MDS/ITFS equipment that was designed to operate in a pre-WCS environment should be afforded some degree of protection from interference. The introduction of possibly a large number of transmitters in WCS spectrum will increase the potential for interference to existing MDS/ITFS receivers that were designed with different expectations about the extent and nature of use of nearby bands.^{11/}

As a result, the Commission found that “it is appropriate and equitable to shift to WCS licensees some of the cost and responsibility for remedying interference to MDS/ITFS operations.”^{12/}

^{8/} See SSR Supplemental Comments, Exhibit 2, at 9-10. WCA must note that it does not agree with the methodology utilized by SSR to calculate the 2048 meter distance. SSR’s calculations assumed terrestrial DARS power of 30 dBW/MHz. See *id.* However, because Sirius advocates that no limit be imposed on terrestrial DARS power levels, the actual power levels MDS and ITFS receivers will have to contend with could be higher.

^{9/} *Id.* at 9.

^{10/} *WCS Reconsideration Order*, 12 FCC Rcd at 3983.

^{11/} *Id.* at 3984.

^{12/} *Id.*

Specifically, the Commission required that each WCS licensee would be required to provide neighboring MDS/ITFS licensees advance notice before commencing operations, and required each WCS licensee to bear the full cost of replacing an MDS/ITFS downconverter when: (1) the interference complaint is received by the WCS licensee prior to February 20, 2002; (2) the MDS/ITFS downconverter was installed prior to August 20, 1998; (3) the WCS operation transmits at 50 or more watts EIRP; (4) the MDS/ITFS downconverter is located within a WCS transmitter's -34 dBW/m² power flux density contour; and (5) the MDS/ITFS customer or licensee has informed the WCS licensee of the interference within one year from the initial operation of the WCS transmitter or within one year from any subsequent power increase.^{13/}

Because terrestrial DARS repeaters in the 2320-2345 MHz band pose essentially the same risk of interference as did WCS terrestrial operations in the 2305-2360 MHz band, WCA urges the Commission (1) to protect MDS/ITFS reception by limiting terrestrial DARS repeaters to 400 watts/MHz (the same 2,000 watts EIRP limit as is applied to fixed WCS operations, but adjusted to reflect bandwidth differences); (2) to require notice to nearby MDS and ITFS licensees before a

^{13/} 47 C.F.R. § 27.58(a).

terrestrial DARS repeater commences transmissions; and (3) to impose on terrestrial DARS licensees the same obligation to replace MDS/ITFS downconverters as has been imposed on WCS licensees.

Respectfully submitted,

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February 22, 2000

CERTIFICATE OF SERVICE

I, Stephanie Sieber, hereby certify that the foregoing Comments was served this 22nd day of February, 2000, by depositing a true copy thereof with the United States Postal Service, first-class postage prepaid, addressed to the parties listed on the attached list:

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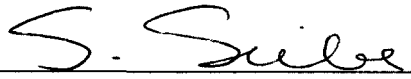
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